

Were so much ore added in the open-hearth furnace to such a pig iron as needed for the removal of the substances Si, Mn and P, according to the formulae 63 to 65, and so much lime that the oxidation products of the phosphorus and silicon from the compounds originally produced with iron protoxide were able to go over into the lime salts whereby the iron content of the slag might go down to the minimum, the utilisation of the ore would reach the maximum.

For a pig iron of the foregoing composition, the quantity of the slag admits of calculation in the following manner :—

Total 2-50 per cent. SiO₂, which $\times 2.9 = 7.25$ per cent, hypothetical silicate slag (from formula 40); one thus obtains a total of $5.9 + 7.25 = 13.15$ per cent, total slag on the weight of the metallic charge employed. . The composition of this slag would be approximately

(6) The hypothetical silicate slag = 55 per cent, of the total, containing
 $55 \times 0.34 = 11.7$ per cent. SiO_2

The complete analysis of the slag would thus be approximately 17 per cent. P2O5, 11.7 per cent. SiO2, 7.1 per cent. Fe